

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A high efficient method of ~~slagging-off for~~slag scooping-up from liquid iron, characterized in that the two wings of slag rake mounted to the front end of cantilever descend side by side until beneath the surface of the liquid iron at a certain depth. The two rakes make swing movement respectively along the surface of liquid iron. when iron, when gradually moving close to each other in the course of swing movement, they get put together and clamp the solid slag. Then therefore, driven by the cantilever, the two slag rakes which clamp the sold slag are brought to ascend until above the surface at a certain height, move back to the vicinity of the edge of the liquid iron ladle finally they leave the space over the ladle and discharge the slag.
2. (Currently amended) A high efficient method of ~~slagging-off for~~slag scooping-up from liquid iron according to Claim 1, characterized in that: ~~first, the two slag rakes descend side by side until beneath the surface of the liquid iron for a certain depth. Then after swing movement, they are brought to ascend by the cantilever until above the surface for a certain height. Finally, the two slag rakes are driven by the cantilever to move to the outside of the edge of liquid iron ladle and discharge the slag.~~

(1) when the liquid iron ladle moves in and takes its working position, the flatcar, driven by a motor or hydraulic power, moves forward to appropriate working position for the process of slag scooping-up;

(2) the hoisting main shaft (oil cylinder) starts to operate, it brings the slag rakes down into the liquid iron and beneath the surface at a certain depth by means of a cantilever;

(3) hydraulically driven by the oil cylinder, the slag rakes make swing movement for collecting slag;

(4) when the two slag rakes driven by the cantilever move to the edge of liquid iron ladle, the hoisting main shaft (oil cylinder) lifts up the cantilever, which brings the slag rakes up and above the surface at a certain height;

(5) driven by the motor or hydraulic power, the flatcar starts to move backward until to the position where the slag rakes completely leave the space over the liquid iron ladle;

(6) the two slag rakes swing in a reversed way respectively so as to make the slag in the rakes fall down into the slag hopper in the vicinity of the ladle.

3. (Currently amended) A device for implementing the high efficient method of ~~slagging-off~~ for slag scooping-up from liquid iron according to claim 1 and 2, characterized in that comprising a flatcar track (8), a flatcar (7) which reciprocates along the flatcar track (8) and a cantilever (4) which is connected to the flatcar (7) by means of a hoisting main shaft (5). The rack (10) is fitted in the drive case (2) at the front end of the cantilever (4). ~~It is~~ it is engaged with the gears (11) on its two ~~sides~~. ~~The~~ sides, the two gears (11) are fixed to the rear ends of two slag rakes (1) by means of two rotating shafts (3).
4. (Currently amended) A device for implementing the high efficient method of ~~slagging-off~~ for slag scooping-up from liquid iron according to claim 3, characterized in that there is an oil cylinder (9) connected to the rear end of the rack (10). The oil cylinder (9) drives the rack (10) to move forward or backward.

5. (Currently amended) A device for implementing the high efficient method of ~~slagging off for~~ slag scooping-up from liquid iron according to claim 3, characterized in that the flatcar (7) is driven by a motor to move along the flatcar track (8).
6. (Currently amended) A device for implementing the high efficient method of ~~slagging off for~~ slag scooping-up from liquid iron according to claim 3, characterized in that the flatcar (7) is driven by hydraulic power to move along the flatcar track (8).
7. (Currently amended) A device for implementing the high efficient method of ~~slagging off for~~ slag scooping-up from liquid iron according to claim 3, characterized in that one side of each of the two slag rakes which gathers and clamps slag is in saw-tooth shape.
8. (New) A device for implementing the high efficient method of slag scooping-up from liquid iron according to claim 3, characterized in that there are many ways to drive the slag rakes to make swing movement, one of which is rack and gear method, other driving methods could be of gear, cam, worm and worm, gear, chain, belt, oscillating oil cylinder or any other hydraulic or electric driving types.
9. (New) A device for implementing the high efficient method of slag scooping-up from liquid iron according to claim 3, characterized in that the cantilever is of hydraulic driven type.